

Amendments to the Claims:

This listing of claims will replace all prior versions and listing of claims in the application.

Listing of Claims:

1. (Currently Amended) A storage system for protecting data on a physical volume at the file system level and permitting access to the data at the physical volume level comprising:

- a first interface for file level input/output (I/O);
- a second interface for block level I/O;
- a plurality of physical volumes upon which logical volumes are represented;
- a first controller which processes file level I/O requests; and
- a second controller which processes block level I/O requests,

wherein, in response to a file system protect request directed to a particular logical volume, the particular logical volume is protected for a specified period of time and a physical volume of the particular logical volume is also protected for the specified period of time, and

wherein once the particular logical volume is protected, write requests to the particular logical volume or physical volume of the particular logical volume via either the first or second controller are not permitted until expiration of the specified period of time

~~wherein said first and second controllers share protection information for said logical and physical volumes, and~~

~~wherein archived data is stored from said first interface and protected at the file system level, is accessed from both said first and second interfaces and is protected whichever interface is being used.~~

2. (Amended) A storage system according to claim 1, wherein the plurality of physical volumes permits creation of an appropriate sized file system to be created to store archived data.

3. (Amended) A storage system according to claim 2, wherein information regarding whether or not the particular logical volume or physical volume is protected is stored in the shared protection information is a volume status table having a plurality of entries which indicate statuses of the particular said physical and logical volumes and physical volume.

4-5. (Canceled).

6. (Original) A storage system according to claim 3, wherein said entries indicate a second status of each volume defining whether the volume is exported or un-exported.

7. (Original) A storage system according to claim 3, wherein said entries indicate a third status of each volume defining a retention period for the volume.

8. (Canceled).

9. (Original) A storage system according to claim 1, wherein said first controller is a network attached storage controller which processes file level I/O requests.

10. (Original) A storage system according to claim 1, wherein said second controller is a disk controller network attached storage controller which processes block level I/O requests.

11. (Original) A storage system according to claim 1, wherein said first interface is an Ethernet interface which processes file level I/O requests.

12. (Original) A storage system according to claim 1, wherein said second interface is a Fibre Channel interface which processes block level I/O requests.

13. (Amended) A storage system for protecting data on a physical volume at the file system level and permitting access to the data at the physical volume level comprising:

a network attached storage (NAS) gateway; and
a storage system which is connected to said NAS gateway,
wherein said NAS gateway comprises:

a first interface for file level I/O,
a third interface for block level I/O, and
a first controller which processes file level I/O requests,

wherein said storage system comprises:

a second interface for block level I/O, said second interface being
connected to said third interface,

a plurality of physical volumes upon which logical volumes are
represented, and

a second controller which processes block level I/O requests,

wherein, in response to a file system protect request directed to a particular
logical volume, the particular logical volume is protected for a specified period of time
and a physical volume of the particular logical volume is also protected for the
specified period of time, and

wherein once the particular logical volume is protected, write requests to the
particular logical volume or physical volume of the particular logical volume via either
the first or second controller are not permitted until expiration of the specified period
of time

~~wherein said first and second controllers share protection information for said logical and physical volumes, and~~

~~wherein archived data is stored from said first interface of said NAS gateway to said second interface via said third interface and protected at the file system level, is accessed from both said first and second interfaces and is protected whichever interface is being used.~~

14. (Currently Amended) A storage system according to claim 13, wherein the plurality of physical volumes permits creation of an appropriate-sized file system to be created to store archived data.

15. (Currently Amended) A storage system according to claim 14, wherein information regarding whether or not the particular logical volume or physical volume is protected is stored in~~wherein the shared protection information is a volume status table having a plurality of entries which indicate statuses of said particular physical and logical volumes~~ and physical volume.

16. (Canceled).

18. (Original) A storage system according to claim 15, wherein said entries indicate a second status of each volume defining whether the volume is exported or un-exported.

19. (Original) A storage system according to claim 15, wherein said entries indicate a third status of each volume defining a retention period for the volume.

20. (Canceled).

21. (Original) A storage system according to claim 13, wherein said first controller is a network attached storage controller which processes file level I/O requests.

22. (Original) A storage system according to claim 13, wherein said second controller is a disk controller network attached storage controller which processes block level I/O requests.

23. (Original) A storage system according to claim 13, wherein said first interface is an Ethernet interface which processes file level I/O requests.

24. (Original) A storage system according to claim 13, wherein said second interface is a Fibre Channel interface which processes block level I/O requests.

25. (Currently Amended) A storage system for protecting data on a physical volume at the file system level and permitting access to the data at the physical volume level comprising:

- a first interface for file level input/output (I/O);
- a second interface for block level I/O;
- a plurality of physical volumes upon which logical volumes are represented;
- a first controller which processes file level I/O requests; and
- a second controller which processes block level I/O requests,

wherein, in response to a file system protect request directed to a particular logical volume, the particular logical volume is protected for a specified period of time and a physical volume of the particular logical volume is also protected for the specified period of time, and

wherein once the particular logical volume is protected, write requests to the particular logical volume or physical volume of the particular logical volume via either the first or second controller are not permitted until expiration of the specified period of time

~~wherein said first controller changes protection information for said logical and physical volumes to protect data,~~

~~wherein the volume storing the protected data is protected from access from said second controller in accordance with the protection information.~~

26. (Currently Amended) A storage system according to claim 25, wherein
information regarding whether or not the particular logical volume or physical volume
is protected is stored in~~wherein the protection information is~~ a volume status table
having a plurality of entries which indicate statuses of said particular physical and
logical volumes and physical volume.

27. (Canceled).

28. (Original) A storage system according to claim 26, wherein said entries indicate
a second status of each volume defining whether the volume is exported or un-
exported.

29. (Original) A storage system according to claim 25, wherein said first controller is
a network attached storage controller which processes file level I/O requests.

30. (Original) A storage system according to claim 25, wherein said second
controller is a disk controller network attached storage controller which processes
block level I/O requests.

31. (Original) A storage system according to claim 25, wherein said first interface is an Ethernet interface which processes file level I/O requests.

32. (Original) A storage system according to claim 25, wherein said second interface is a Fibre Channel interface which processes block level I/O requests.

33. (Currently Amended) A storage system for handling input/output (I/O) requests from a plurality of servers, wherein a first server of the servers sends file I/O requests and a second server of the servers sends block I/O requests, comprising:

a storage media including a plurality of volumes, at least one of the volumes stores data of file system;

a first controller, to be coupled to the first server, conducting I/O operations in response to the file I/O requests;

a second controller, coupled to the storage media, to be coupled to the second server, conducting I/O operations in response to the block I/O requests; and

wherein at least one volume of the volumes which stores the data of file system is set to be write-protected from the second controller when the first controller receives a request from the first server to protect the file system in the storage media for a particular period of time.

34. (Previously Presented) The storage system according to claim 33, wherein the first and second controllers share protection information including a status of protection and a retention period for each of the volumes which is set at file system level by the first controller.

35. (Previously Presented) The storage system according to claim 33, wherein the first controller receives the file I/O requests via a first interface and the second controller receives the block I/O request via a second interface.